

**REMARKS**

Applicant adds new dependent claims 7-10 more fully to cover the features of the invention as illustrated, for example, in Applicant's Figs. 4 and 5. Therefore, claims 1-10 are now pending in the application.

The Examiner rejects:

- claims 1, 2 and 6 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. 2002/0186944 to Riant et al. (Riant '944);
- claims 1 and 6 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. 2003/0016912 to Riant et al. (Riant '912); and
- claims 3-5 under 35 U.S.C. § 103(a) as being unpatentable over Riant '944.

Also, the Examiner requires that Applicant label Figs. 1-3 as "Prior Art".

With regard to Figs. 1-3, Applicant notes that, in the Background of the Invention section of Applicant's specification, Figs. 1-3 are described as illustrating "conventional" implementations. Accordingly, Applicant submits herewith substitute Figs. 1-3 labeled as "CONVENTIONAL".

With regard to the §102(e) rejections, Applicant respectfully traverses these rejections as follows.

Applicant's invention provides an optical filter and an optical gain flattening filter comprising unique combinations of features including, *inter alia*, in the fiber portion comprising the Bragg grating, the photosensitivity of the cladding is greater than the photosensitivity of the core and the cladding includes an index step area having a refractive index  $n_3$  greater than  $n_2$  and

less than  $n_1$ , said index step area having a width  $L$  defined by an inside radius  $R_{s1}$  greater than or equal to the radius  $R_{core}$  of the core and an outside radius  $R_{s2}$  less than or equal to the radius  $R_{cladding}$  of the cladding (see Applicant's independent claims 1 and 6).

Neither Riant '944, nor Riant '912, discloses or suggests such unique combinations of features.

Riant '944 discloses an optical waveguide which has a "core" and a "cladding", such that the cladding is composed of a "depressed inner cladding" and an "outer cladding" where:

In this embodiment the refractive index of the core  $n_{co}$  has a higher absolute value than the refractive index of the outer cladding. The refractive index of the outer cladding has a higher value than the refractive index of the inner cladding. This forms a depressed well and the total index step is defined as difference between  $n_{co}$  and  $n_{cl}$ .

FIG. 1b illustrates the function of photosensitivity versus the radius  $R$  of the fiber. The photosensitivity in the core  $S_{co}$  has a lower value than the photosensitivity in the inner cladding region.

FIG. 2 illustrates a second embodiment of the invention fiber. The refractive index profile is the profile of a index matched inner cladding. The profile of the photosensitivity remain as shown in FIG. 1b

(See Id., page 2, paragraphs [0022] through [0028]; see also Id., Figs. 1 and 2.)

While Riant '944 discloses that the "photosensitivity in the core  $S_{co}$  has a lower value than the photosensitivity in the inner cladding region", Fig. 2 of Riant '944 clearly illustrates that the photosensitivity in the core  $S_{co}$  has a greater value than the photosensitivity in the outer cladding region. (see Id.; see also, Id., Fig. 2).

Thus, in contradistinction to Applicant's claims 1 and 6, which require the photosensitivity of the cladding to be greater than the photosensitivity of the core, Riant '944 discloses a structure where the photosensitivity of the outer cladding is lower than the photosensitivity of the core.

Accordingly, Applicant's independent claims 1 and 6, as well as the dependent claim 2 (which incorporates all the novel and unobvious features of its base claim 1), are not anticipated by (i.e., are not readable on) Riant '944 at least for this reason.

Riant '912 discloses an optical fiber which includes a "core", a "cladding" and a "grating written by irradiation and coupling at least one light mode into the cladding so that it is dissipated therein" (see Id., Abstract). As shown in Figs. 1 and 2 of Riant '912, the "cladding" is composed of two zones: an "annular zone or cladding ... [which] extends between radii  $R_{\text{core}}$  and  $R_{\text{cladding}}$ "; and an "outer cladding" which extends "[a]round this annular zone" (see Id., page 2, paragraphs [0026] and [0027]). In particular, while Riant '912 discloses that "[t]he photosensitivity in the first zone [i.e., in the core zone] has a lower value than the photosensitivity in the inner annular zone surrounding it", Fig. 2 of Riant '912 clearly illustrates that the photosensitivity in the core zone (i.e., the zone which extends from the center to  $R_{\text{core}}$ ) has a greater value than the photosensitivity in the outer cladding zone (i.e., the zone which extends beyond  $R_{\text{cladding}}$ ) (see Id.; see also, Id., Fig. 2).

Thus, in contradistinction to Applicant's claims 1 and 6, which require the photosensitivity of the cladding to be greater than the photosensitivity of the core, Riant '912

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discloses a structure where, as in Riant '944, the photosensitivity of the outer cladding is lower than the photosensitivity of the core.

Accordingly, Applicant's independent claims 1 and 6 are not anticipated by (i.e., are not readable on) Riant '912 at least for this reason.

With regard to the §103(a) rejection, Applicant respectfully submits that Application No. 10/601,864 and U.S. Patent Application Publication No. 2002/0186944 were, at the time the invention of Application No. 10/601,864 was made, owned by Alcatel. Therefore, this rejection should be withdrawn. *See* 35 U.S.C. § 103(c).

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

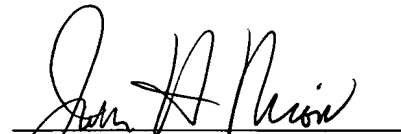
WASHINGTON OFFICE

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Respectfully submitted,



John H. Mion  
Registration No. 18,879  
for  
Stan Torgovitsky  
Registration No. 43,958